



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/709,994

06/11/2004

Sam Shiaw-Shiang Jiang

5413-0182PUS1

3993

64044 7590 06/21/2007
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 GATEHOUSE ROAD
SUITE 100 EAST
FALLS CHURCH, VA 22315

EXAMINER

HAILU, KIBROM T

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

06/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

5K

Office Action Summary	Application No. 10/709,994	Applicant(s) JIANG, SAM SHIAW-SHIANG	
	Examiner Kibrom T. Hailu	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, .
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase “driving the receiver to use a TTI counter to count a number of transmission time intervals, called TTI hereafter, in which no new PDU allowed by the receiving window is received after a predetermined period of time” renders the claim indefinite because it is unclear as to what is claimed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6, 8 and 16-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Yi et al. (US 6,771,603 B2).

Regarding claim 1, Yi discloses a method for controlling a transmitter and a receiver in a wireless communication system to handle a transmission window size change procedure (Abstract) comprising following steps: (a) driving the receiver to deliver a control message having a window size parameter to the transmitter for adjusting a transmission window size of the transmitter (col. 2, lines 10-11, 60-64; col. 3, lines 11-14, 57-60; col. 4, lines 30-32); and (b) when the transmitter receives the control message, driving the transmitter to output an acknowledgement message to the receiver and adjust the transmission window size according to the window size parameter (col. 2, line 64-col. 3, line 2, when the window size number (WSN) or control message transmits from the receiving system to the originating system, the originating system resets the transmission window size same as the WSN or window parameter that is transmitted from the receiving system; and the originating system also generates and start transmitting the corresponding number of PDUs to the receiver. In other words, the originating system resets its transmission window and acknowledges that it received the WSN or control message by transmitting the corresponding PDUs. The number of the PDUs is the equal to the desired window parameter sent from the receiver. Note also that sending acknowledgment either from the receiver and/or transmitter is not a novel thing. It is obvious for a person skill in the art).

Regarding claim 2, Yi further discloses comprising driving the receiver to retransmit the control message to the transmitter if the receiver does not receive the acknowledgement message within a predetermined period of time (col. 2, lines 12-14; col. 4, lines 1-3, illustrates the receiving system retransmits the desired window size number after a predetermined period of

Art Unit: 2616

time if it doesn't get any response from the transmitting system since the last transmission of the WSN).

Regarding claim 3, Yi discloses step (a) further comprising driving the receiver to clock the predetermined period of time when the control message is outputted (col. 3, lines 13-14 in combination with col. 3, lines 20-21, explains the receiver has a timer or time clock that begins to run after the transmission of the WSN and stops at its expiration. Meaning the timer clocks for a predetermined of time when the WSN is sent to the transmitting system).

Regarding claim 4, Yi discloses the predetermined period of time is set to be larger than or equal to the roundtrip transmission delay between the receiver and the transmitter (col. 3, lines 20-23, obviously, the timer or time clock stays longer than the roundtrip transmission delay because it doesn't expires till after the PDUs reception time. Setting the time equal to the roundtrip delay between the receiver and the transmitter is also obvious for a person with ordinary skills in the art, e.g. see Sherman (US 6,831,912 B2), col. 2, lines 46-50; Ono (US 6,934,251 B2), col. 3, lines 7-14).

Regarding claim 5, Yi further discloses step (b) further comprises driving the transmitter to add a window size acknowledgement parameter to the acknowledgement message, wherein the window size acknowledgement parameter corresponds to the window size parameter used in step (b) (col. 2, line 64-col. 3, line 2, the transmitting system resets its transmission window size the same as the parameter transmitted from the receiving system, and the sends the corresponding number of the PDUs to the receiving system. In other words, the transmitting system is in fact acknowledges the window parameter that is the same as the receiving system's windows parameter by sending the corresponding number of the PDUs).

Regarding claim 6, Yi further discloses comprises the step of: the window size acknowledgement parameter is set equal to the window size parameter (col. 2, lines 64-65, explains the Tx_window_size, the transmission window size, is based on the WSN that is transmitted from the receiving system, and sends the corresponding number of PDUs. Meaning the transmission window size is equal to the receiving window size, and is sent to the receiving side by means of equal amount of PDUs. Note also that each PDU has a sequence number. Thus, the receiver learns the same window size change at the transmitter through the receiving PDUs).

Regarding claim 8, Yi discloses driving the receiver to adjust a receiving window of the receiver according to the window size parameter when the receiver receives the acknowledgement message (col. 2, line 60-col. 3, line 2 in combination with col. 3, lines 11-29, explains receiving system stops sending the WSN when the transmitter starts to send PDUs. That means, the receiver changes its window size based on the desired WSN or parameter. In other words, the receiver doesn't adjust its window size unless it receives the corresponding number of PDUs, in this case acknowledgement, from the transmitter. As explained above, if it doesn't hear anything from the transmitter, it retransmits the WSN to the transmitter at a predefined period or at the expiration of the timer).

Regarding claim 16, Yi discloses a method for controlling a transmitter and a receiver in a wireless communication system to handle a transmission window size change procedure (Abstract) comprising following steps: driving the receiver to deliver a control message to the transmitter for increasing a transmission window of the transmitter (col. 2, lines 10-11, 60-64; col. 3, lines 11-14, 57-60; col. 4, lines 30-32); driving the receiver to use a TTI counter to count a number of transmission time intervals, called TTI hereafter (col. 3, lines 13-14, 20-22, explains

Art Unit: 2616

the time clock or timer runs. The times can be measured in terms of milliseconds or number of TTI. Counting the number of transmission time intervals or TTI is well known); in which no new PDU allowed by the receiving window is received after a predetermined period of time, and driving the receiver to retransmit the control message to the transmitter and reset the TTI counter to a value of zero if the TTI counter reaches a predetermined value (col. 3, lines 20-24, retransmits the WSN or the control message and reset the timer at the expiration time or at the maximum time, and no new PDU is received).

Regarding claim 17, Yi discloses driving the receiver to count each group of the contiguous TTIs in which no new PDU allowed in the receiving window is received as one (col. 3, lines 14-15).

Regarding claim 18, Yi discloses blocking the receiver from retransmitting the control message after the same control message has been retransmitted for a predetermined number of times (col. 3, lines 30-37).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 2616

2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi in view of Sachs et al. (US 2006/0154603 A1).

Regarding claim 9, Yi discloses receiving window. However, Yi doesn't disclose when the receiver receives a PDU having a sequence number outside the receiving window, the receiver discards the PDU.

Sachs teaches when the receiver receives a PDU having a sequence number outside the receiving window, the receiver discards the PDU (paragraph [0069], lines 22-23).

Therefore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to discard the PDUs outside the receiving window as taught by Sachs, and use the method into the data flow controlling method of Yi in order to ensure reliability of the transmission and improve the transmission performance.

Regarding claim 10, Yi A method for controlling a transmitter and a receiver in a wireless communication system to handle a transmission window size change procedure (Abstract) comprising following steps: driving the receiver to deliver a control message to the transmitter for adjusting a transmission window size of the transmitter (col. 2, lines 10-11, 60-64; col. 3, lines 11-14, 57-60; col. 4, lines 30-32).

Yi further discloses driving the receiver to adjust a receiving window size according to the window size parameter (col. 2, line 60-col. 3, line 2). However, Yi doesn't explicitly disclose the window size adjustment is after a predetermined period of time, wherein the receiver discards a PDU having a sequence number outside the receiving window.

Sachs teaches driving the receiver to adjust a receiving window size after a predetermined period of time (paragraph [0027], illustrates the receiver and the transmitter move or change the window size after predefined time or m milliseconds), wherein the receiver discards a PDU having a sequence number outside the receiving window (paragraph [0069], lines 22-23).

Therefore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to use the receiving adjustment method of Sachs into the data flow controlling method of Yi in order to synchronize with the transmitter, thus ensure reliability of the transmission and improve the transmission performance.

Regarding claim 11, Yi discloses comprising driving the receiver to clock the predetermined period of time when the control message is outputted (col. 3, lines 13-14 in combination with col. 3, lines 20-21, explains the receiver has a timer or time clock that begins to run after the transmission of the WSN and stops at its expiration. Meaning the timer clocks for a predetermined of time when the WSN is sent to the transmitting system).

Regarding claim 12, Yi discloses the predetermined period of time is set to be larger than or equal to the roundtrip transmission delay between the receiver and the transmitter (col. 3, lines 20-23, obviously, the timer or time clock stays longer than the roundtrip transmission delay because it doesn't expires till after the PDUs reception time. Setting the time equal to the roundtrip delay between the receiver and the transmitter is also obvious for a person with ordinary skills in the art, e.g. see Sherman (US 6,831,912 B2), col. 2, lines 46-50; Ono (US 6,934,251 B2), col. 3, lines 7-14).

Art Unit: 2616

8. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi in view of Le et al. (US 6,744,730 B2).

Regarding claim 13, Yi discloses a method for controlling a transmitter and a receiver in a wireless communication system to handle a transmission window size change procedure (Abstract) comprising following steps: driving the receiver to deliver a control message having a window size parameter to the transmitter (col. 2, lines 10-11, 60-64; col. 3, lines 11-14, 57-60; col. 4, lines 30-32); driving the receiver to generate an intended receiving window according to the window size parameter (col. 2, lines 60-64, the receiving system generates the desired or intended WSN);

Yi doesn't explicitly disclose the control message is for reducing a transmission window size of the transmitter; and retransmitting the control message if the receiver receives a PDU having a sequence number outside the intended receiving window.

Le teaches the control message is for reducing a transmission window size of the transmitter; if the receiver receives a PDU having a sequence number outside the intended receiving window (col. 2, lines 31-33, explains sending a window advertisement or control message for decreasing window size. Then the transmitter stops sending PDUs beyond the reduced receiving window boundary. Obviously if the transmitter sends beyond this boundary, the receiver knows the transmitter doesn't reduce its transmission window, and Yi teaches retransmitting the WSN to the transmitter).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Le's method that sends advertisement window or control message for

Art Unit: 2616

reducing the transmission window into the timely control message retransmission method of Yi in order to provide flow control as well as reliable data transfer (Le, col. 2, lines 35-37)

Regarding claim 14, Yi discloses driving the receiver to clock the predetermined period of time when the control message is outputted (col. 3, lines 13-14 in combination with col. 3, lines 20-21, explains the receiver has a timer or time clock that begins to run after the transmission of the WSN and stops at its expiration. Meaning the timer clocks for a predetermined of time when the WSN is sent to the transmitting system).

Regarding claim 15, Yi discloses the predetermined period of time is set to be larger than or equal to the roundtrip transmission delay between the receiver and the transmitter (col. 3, lines 20-23, obviously, the timer or time clock stays longer than the roundtrip transmission delay because it doesn't expires till after the PDUs reception time. Setting the time equal to the roundtrip delay between the receiver and the transmitter is also obvious for a person with ordinary skills in the art, e.g. see Sherman (US 6,831,912 B2), col. 2, lines 46-50; Ono (US 6,934,251 B2), col. 3, lines 7-14).

Allowable Subject Matter

9. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kibrom T. Hailu whose telephone number is (571)270-1209. The examiner can normally be reached on Monday-Thursday 8:30AM-6:00PM.

Art Unit: 2616

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kibrom Hailu
KTH
06/15/07


RICKY Q. NGO
SUPERVISORY PATENT EXAMINER